

REMARKS

Applicants' invention relates to monodisperse anion exchangers and their preparation by (a) reacting monomer droplets made from monovinylaromatic compounds and polyvinylaromatic compounds, as well as optional porogens and/or initiators, (b) amidomethylating the resultant monodisperse, crosslinked bead polymers with (methyl)phthalimide, (c) converting the amidomethylated bead polymers to aminomethylated bead polymers, and (d) alkylating the aminomethylated bead polymers.

Rejection under 35 U.S.C. 103

Claims 1-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patents 4,444,961 ("Timm"), 4,952,608 ("Klipper et al"), and 3,006,866 ("Corte et al '866"). Applicants respectfully traverse.

The Final Office Action at page 2 states that Applicants' claimed process is a compilation of generally known steps. As Applicants have previously pointed out, it is well established that "identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention." *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1316-1317 (Fed. Cir. 2000) (emphasis added). Here, none of the patents cited in the Office Action identifies all of the steps of Applicants' claimed process. Moreover, it has long been recognized that even structurally similar inventions can be patentably distinct under certain circumstances. E.g., *U.S. v. Adams*, 383 U.S. 39, 148 U.S.P.Q. 479 (1966). This is particularly true where references teach a preference for compositions other than those claimed in the new application and where comparative evidence supports a finding of non-obviousness. E.g., *Ex parte Strobel*, 160 U.S.P.Q. at 352-353; see also *In re Chupp*, 816 F.2d 643, 2 U.S.P.Q.2d 1437, 1439 (Fed. Cir. 1987), and *In re Creson*, 177 U.S.P.Q. 264, 266-267 (C.C.P.A. 1973). As will be discussed in greater detail below, Applicants have obtained comparative data showing that a heterodisperse ion exchanger obtained by aminoalkylation and subsequent alkylation of a corresponding heterodisperse bead polymer (i.e., by the general method of Corte et al '866) is inferior to a monodisperse ion exchanger obtained according to Applicants' claimed process. Applicants submit that their data are sufficient to overcome any inference of obviousness.

As previously discussed, Timm discloses the preparation of spheroidal polymer beads by a method that is mentioned in the present application as one way to prepare monodisperse, crosslinked vinylaromatic base polymers according to Applicants' step (a). The Final Office Action at page 2 relies upon Klipper et al with respect to Applicants' steps (b) and (c) and upon Corte et al '866 with respect to Applicants' step (d). Applicants, however, continue to maintain that the cited references do not tie these steps together. Timm discloses a preparation of spheroidal polymer beads but does not disclose a subsequent sequence of amidomethylation, conversion to aminomethylated bead polymers, and alkylation. Klipper et al discloses amidomethylation and conversion to corresponding aminomethylated polymers but does not mention monodisperse polymer beads or subsequent alkylation. Corte et al '866 discloses alkylation of amino groups but teaches a different amidomethylation method and does not even remotely suggest monodisperse polymer beads.

Even if (solely for the purpose of discussion) one might consider combining the various steps into one process, Applicants have obtained comparative experimental data, presented in the form of a Declaration under 37 C.F.R. 1.132 of Reinhold Klipper (one of the inventors), showing that a monodisperse anion exchanger prepared according to their invention, when compared to the comparative heterodisperse anion exchanger described in the Declaration, was obtained in higher yields and exhibited unexpectedly improved performance, as measured by useful capacity, pressure loss, and fouling by calcium ligninsulfate [see R. Kunin, *Ion Exchange Resins* (Huntington, NY: Robert E. Krieger Publishing Company, 1972), pages 368-385 (copy enclosed)].

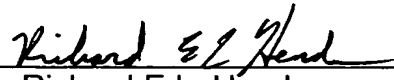
Applicants submit that those skilled in the art would not have expected such improvements and thus would not have been led by the teachings of the cited references to their claimed invention.

Applicants therefore respectfully submit that their claims are not rendered obvious by the combination of Timm, Klipper et al, and Corte et al '866.

In view of the preceding amendments and remarks, allowance of the claims is respectfully requested.

Respectfully submitted,

By



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